§ 174.260 Freeboard.

(a) Each liftboat not required to obtain and maintain a loadline in compliance with subchapter E of this chapter must place markings on each side of the vessel amidships. These markings must each consist of a horizontal line 18 inches in length and 1 inch in height. The upper edges of the markings must be at a distance equal to the authorized freeboard measured vertically below the intersection of the continuation outwards of the upper surface of the weather deck and the outer surface of the shell. This distance must be at least 24 inches.

(b) The markings required by paragraph (a) of this section may not be submerged in any condition of loading or operation.

Subpart I—Hopper Dredges With Working Freeboard Assignments

SOURCE: CGD 76–080, 54 FR 36977, Sept. 6, 1989, unless otherwise noted.

§ 174.300 Specific applicability.

This subpart applies to each self-propelled hopper dredge for which a working freeboard assignment is being sought under part 44, subpart C, of this chapter.

§ 174.305 Definitions.

Hopper dredge has the same meaning as contained in § 44.310 of this chapter.

Length has the same meaning as contained in § 42.13–15(a) of this chapter.

Working freeboard has the same meaning as contained in § 44.310 of this chapter.

CALCULATIONS

§ 174.310 General.

(a) Each hopper dredge under this subpart must be shown by design calculations based on the assumptions under paragraphs (b), (c), (d), and (e) of this section, that it meets—

(1) The requirements in §§ 170.170, 170.173, and 170.300 of this chapter in each condition of loading and operation; and

(2) The survival conditions of § 174.320 in each condition of loading and operation assuming the character and extent of damage specified in § 174.315.

(b) The calculations required by paragraph (a) of this section must assume:

(1) The hoppers are full of seawater;

(2) The permeability of flooded spaces is as provided by Table 174.310;

(3) The equalization provisions of § 174.325; and

(4) The jettisoning provisions of § 174.330.

(c) The calculations required by this section must take into account a sufficient number of loading conditions to identify the condition in which the vessel is least stable, including, but not limited to, the most severe loading condition, and the:

(1) Specific gravity of the dredge spoil, from 1.02 up to and including the maximum required by paragraph (e)(1) of this section; and

(2) Draft, up to and including the draft corresponding to the working freeboard for the full range of trim.

(d) The calculations required by this section for a dredge with open hoppers may include spillage of spoil from the hopper resulting from changing the angle of heel and trim.

(e) The following assumptions must be made when doing the calculations required by this section:

(1) Dredged spoil in the hopper is a homogeneous liquid with a maximum specific gravity for the areas of operation.

(2) When calculating the vessel's righting arm, it is assumed at each angle of heel that the vessel trims free and the trimming moment is zero.

TABLE 174.310—PERMEABILITY OF FLOODABLE SPACES

Spaces and tanks	Permeability
Storerooms	0.60
Accommodation spaces	0.95
Consumable liquid tanks	0.00 or 0.95—whichever results in the more disabling condition.
Machinery space	0.85—unless otherwise supported by calculations.
Cargo tanks	Determined from the actual density and amount of liquid carried in the tank.

§ 174.315 Extent and character of damage.

(a) The calculations required by § 174.310 must show that the dredge can survive damage at any location along the length of the vessel including at a